Association of circulating endothelial cells with flow mediated vasodilation and disease activity in patients with systemic lupus erythematosus

Rania Gaber, Mai Salama, Mervat El Sergany, Elham Kassem, Hanan El Saadany, Nesreen A. Kotb

Department of Cardiology, Tanta University, Egypt, Department of Rheumatology, Tanta University, Egypt, Department of Rehabilitation and Internal Medicine, Tanta University, Egypt.

Objectives: The aim of this study was to determine the correlation between CEC count and endothelial function, disease activity, and organ involvement in patients with SLE.
Background: Premature atherosclerosis in patients with systemic lupus erythematosus (SLE) is not explained by traditional risk factors. Circulating endothelial cells (CEC) have been identified as a surrogate marker of endothelial dysfunction
Methods: The present study included 30 premenopausal women with SLE and 20 age and sex matched healthy controls (HC). Endothelial function was studied by flow mediated vasodilation (FMD%) in the brachial artery. Serum levels of VCAM-1, ICAM-1 were measured.
Results: >FMD% was lower in patients with SLE than HC (3.5 ± 0.4 vs 9.7 ± 3.2, $p < 0.001$). CEC count was significantly elevated in patients with SLE compared to HC (38 ± 18 vs 7 ± 3, $p < 0.001$). CEC count correlated positively with systemic lupus activity score ($r = 0.97$), and negatively with FMD% ($r = -0.94$). Serum levels of VCAM-1 and ICAM-1 were significantly elevated in patients with SLE compared to HC ($p < 0.001$). There was a significant correlation between CEC count and vasculitic skin lesions ($p < 0.01$), renal involvement ($p < 0.01$), and VCAM-1 levels ($p < 0.001$).
Conclusion: CEC is associated with endothelial dysfunction, disease activity and increased VCAM-1 levels in patients with SLE. These findings suggest a potential role of CEC in the pathophysiology of cardiovascular disease in these patients.

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Can serum tenascin-c be used as a marker of inflammation in patients with dilated cardiomyopathy?

Alyaa A. Kotby [a,b], Manal M. Abdel Aziz [a,b], Waleed M. El Guindy [a,b], Amira N. Moneer [a,b]

[a] Department of Pediatrics, Faculty of Medicine, Ain Shams University, Cairo, Egypt, [b] Department of Clinical Pathology, Faculty of Medicine, Ain Shams University, Cairo, Egypt.

Introduction: Tenascin-C (TN-C), an extracellular matrix glycoprotein, is specifically expressed at high levels during embryonic development, but not in the adult heart. TN-C reappears at sites of inflammatory tissue remodeling or wound healing under various pathologic conditions, such as acute myocardial infarction, acute myocarditis,and some cases of cardiomyopathy. Therefore, the expression of TN-C might be useful for detecting the clinical characteristics of, and ventricular remodeling in, dilated cardiomyopathy (DCM).
Objectives: To evaluate the role of TN-C as a sensitive marker for active inflammation in children with newly onset DCM
Methods: This case controlled study included 24 patients aged from 6 to 72 months with a mean age 45.19 ± 11.03 compared to 20 age and sex matched healthy children. The subjects were divided into 3 groups. Group 1: included twelve patients with acute onset DCM, (less than 6 months duration) ,Group 2: included twelve patients with established chronic DCM, (more than 6 months duration) and Group 3: twenty (20) healthy age and sex matched children served as control group: all studied patients were subjected to full medical history ,thorough clinical examination.
Investigations included: Serum Tenascin-C , chest X-ray and echocardiography using conventional parameters as M-mode, 2D, CW Doppler and 2D speckle tracking technique.
Results: The 2D Speckle Tracking data showed that the patients group had lower Global peak Strain Longitudinal Apical long axis(G SL ap lax), G peak SL apical 4 chamber(a4c), G peak SL apical 2 chamber(a2c) and G peak SL average with highly statistical significant difference using ***T***-test. Moreover the global echocariographic assessment showed that acute cases had lower G peak SL ap lax, G peak SL ap4c, G peak SL a2c, G peak SL avg, than the chronic cases with a highly statistically significant difference (***P*** < 0.001). These data confirm furthermore the global affection of the acute DCM cases than the chronic cases.Our study showed highly significant statistical elevation of serum Tenascin-c among DCM patients than in controls (***P*** value <0.001). It also showed that acute cases had statistically significant higher serum levels of Tenascin-c than chronic cases (***P*** value <0.001). This indicates that serum Tenascin-C level is elevated in cases of acute dilated cardiomyopathy and is decreased significantly in chronic DCM. And showed that circulating tenascin-C is generally associated with the severity of left ventricular dysfunction.
Conclusions: Serum-Tenascin Level was significantly increased in patients with idiopathic dilated cardiomyopathies. This increase was noted in acute and chronic cases, with significant difference between both being higher in the acute cases, and associated with the severity of heart failure and the LV dysfunction as detected by 2D speckle tracking echocardiography.

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The trans-caval approach for surgical correction of sinus venosus atrial septal defect with partial anomalous pulmonary venous drainage into the superior vena cava : Early experience in Alexandria University

Ibrahim Khadragi *, Mohamed Nassar

Cardiothoracic Surgery, Faculty of Medicine, Alexandria University, Egypt.

Objectives: Many techniques have been developed to address the partial anomalous pulmonary venous drainage into the superior vena cava with or without sinus venosus atrial septal defect.

The morphology of this anomaly is responsible for the possible surgical complications including sinus node dysfunction, systemic and/or pulmonary venous channels obstruction.

Since early 2010, we started to slowly adopt the vertical trans-caval incision for the correction of this anomaly. Here, we present our early experience in Alexandria University with six patients operated using this approach.
Methods: Between April 2010 and April 2011, six patients, aged between 7 and 35 years, were addressed using one patch of Gluteraldhyde prepared autologus pericardium, after vertical superior vena caval incision at the mouth of the anomalous pulmonary veins. Two

patients had associated left superior vena cava. One patient required enlargement of the caval incision site by an additional patch. Follow up ranged from 2 to 12 months.
Results: There was no mortality or important morbidities. Post-operative echocardiographic examination of all patients showed unobstructed caval and pulmonary venous flow. Follow up ECG confirmed the absence of any arrhythmia.
Conclusion: Vertical trans-caval approach is a highly reproducible technique for correction of partial anomalous pulmonary venous drainage into the superior vena cava with very low incidence of complications.

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Case-control study of potential culprit procedures for infective endocarditis in an Egyptian Tertiary Care Centre

Walid Ammar [a,*], Wafaa EL Aroussi [a], Asem EL Mahy [a], Amany EL Kholy [b], Hussein Rizk [a]

[a] Department of Cardiology, Cairo University, Egypt, [b] Clinical Pathology, Cairo University, Egypt.

Background: Infective endocarditis (IE) is associated with substantial morbidity and mortality. The numbers of patients with chronic predisposing medical comorbidities have increased as has the commensurate risk of exposure to nosocomial bacteremia. However, there are conflicting views as to the significance of bacteremia caused by interventional procedures in the existing IE clinical guidelines.
Aim of the work: Many IE risk factors have been postulated, but formal evaluation of these risk factors is lacking in Egyptian tertiary care Centers. In this study, we test the hypothesis that underlying medical conditions, not culprit procedures, are the most important risk factor for development of IE in an Egyptian tertiary care center.
Patients and methods: We matched 175 patients with definite IE from the IE database of Cardiology Department at Cairo University Hospital with175 control cases without IE, matched for age, sex, and underlying heart disease.Demographic and clinical data, comorbidities and potential culprit procedures during the 3 months prior to the diagnosis of IE were recorded in both groups. Continuous and categorical variables were compared using a two-tailed ***t***-test and Pearson's chi-square analysis, respectively. Correlations were tested using Pearsosn's correlation coefficient.
Results: Host-related risk factors included renal impairment (12% vs. 1.1%, $p < 0.001$), renal dialysis (6.3% vs. 0.6%, $p = 0.003$) and prior episode of IE (5.1% vs. 1.1%, $p = 0.03$). Procedure-related risk factors included a history of hospitalization for at least 24 hours in the preceding 3 months, (42.3% vs. 14.9%, $p < 0.001$), and use of peripheral intravenous (IV) line (18.2% vs. 8.2%, $p = 0.005$). Any form of dental procedure was not a risk factor for IE.Staphylococcus species especially Staphylococcus aureus was the most prevalent causative and procedure-related microorganism (27.3%), followed by Streptococcus species in 15.9% of cases.
Conclusions: Hospitalization for at least 24 h within the preceding 3 months and peripheral IV line placement during that hospitalization were significant risk factors for IE. Our study also confirmed renal impairment and prior IE as risk factors. ***Staphylococci were*** the predominant causative microorganisms.These results suggest a nosocomial source of infection and call for reinforcement of infection prevention interventions in Egyptian hospitals especially in high- risk patients.

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Case report: Pentalogy of cantrell

Al sayed salem *

NHI.

Pentalogy of Cantrell is a type of ectopia cordis including: defect in anterior diaphragm, pericardium, anterior abdominal wall in addition to extrusion of part of the heart outside the mediastinum and structural heart disease. We were faced by a case of 2 years old girl presented by a visible large pulsating swelling in the lower part of the chest and upper part of anterior abdominal wall in addition to other manifestations of pulmonary congestion and heart failure. After echocardiography, MSCT was done for completing the diagnosis, the cardiac lesion was a large apical VSD with biventricular dilatation and the apex of the heart forms a long tail like swelling passing through a large anterior pericardial and diaphragmatic defect to lie under the anterior abdominal wall. Under full CPB and cardioplegic arrest; the excess aneuresmal part of cardiac apex was excised and the Apical VSD was closed the aneuresmectomy opening because it was in accessible through the RT atrium. The PT needed high inotric support, prolonged ventilation and ICU stay and discharged on day 15 with maximized medical treatment because the ICU and pre discharge echo shows only minimal improvement of the already severely impaired myocardial function EF $\sim$ 30% and severe PH.

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Catheter-based radiofrequency renal sympathetic denervation for resistant hypertension: initial Egyptian experience

Hazem Khamis, Ahmed Abdeaziz.

Objectives: To evaluate the feasibility, efficacy, and safety of catheter-based radiofrequency renal sympathetic denervation for treatment of resistant hypertension.
Background: In a subpopulation of patients with essential hypertension, therapeutic targets are not met, despite the use of multiple types of medication. In this paper we describe our first experience with a novel percutaneous treatment modality using renal artery radiofrequency (RF) ablation.
Methods: Thirty patients with essential hypertension unresponsive to at least three types of antihypertensive medical therapy (baseline office systolic blood pressure $\geqslant$160 mmHg) were selected between March and September 2012 and received percutaneous RF ablation. Patients were followed up for 6 months after treatment. The primary effectiveness endpoint was change in seated office-based measurement of systolic blood pressure at 6 months. Another thirty patients were taken as control.
Results: A reduction of mean office blood pressure was seen from 170/102 $\pm$ 9/5 mmHg at baseline to 151/91 $\pm$ 8/6 mmHg at 6 months follow-up ($p = 0.001$). Also, we noted a significant decrease in plasma renin activity (3.66 $\pm$ 0.64 versus 3.37 $\pm$ 0.47 ng/mL/h; $p = 0.003$). No periprocedural complications, adverse events or change in renal function were noted during follow-up.
Conclusion: Catheter-based renal denervation seems an attractive minimally invasive treatment option in patients with resistant hypertension, with a low risk of serious adverse events.

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